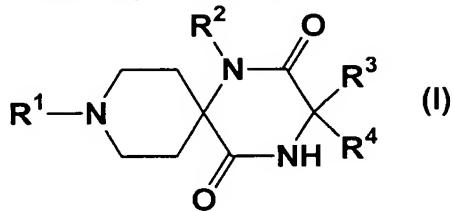


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original) A compound represented by formula (I)



wherein R¹ represents (1) ring 1, or (2) C1-8 alkyl, C2-4 alkenyl or C2-4 alkynyl optionally substituted with 1-3 substituents selected from the following (a)-(i): (a) -OR⁵, (b) -COR⁶, (c) -NR⁷R⁸, (d) -CONR⁹R¹⁰, (e) -NR¹¹COR¹², (f) -NR¹³SO₂R¹⁴, (g) ring 1, (h) =NR¹⁵, (i) =NOR¹⁶,

R⁵-R¹³, R¹⁵ and R¹⁶ each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 1, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from ring 1 and -O-ring 1,

R¹⁴ represents C1-4 alkyl or ring 1,

ring 1 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 1 may be substituted with 1-5 substituents selected from (1) C1-8 alkyl, (2) C2-8 alkenyl, (3) C2-8 alkynyl, (4) halogen, (5) cyano, (6) ring 2, (7) -OR¹⁷, (8) -SR¹⁸, (9) -NR¹⁹R²⁰, (10) -COR²¹, (11) -COOR²², (12) -CONR²³R²⁴, (13) -NR²⁵COR²⁶, (14) -SO₂NR²⁷R²⁸, (15) -NR²⁹SO₂R³⁰, (16) -N(SO₂R³¹)₂, (17) oxo, and (18) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from the following (a)-(e): (a) halogen, (b) ring 2, (c) -OR³², (d) -NR³³COR³⁴, (e) =NOR³⁵,

R¹⁷-R²⁹ and R³²-R³⁵ each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 2, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally

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substituted with 1-3 substituents selected from the following (a)-(f): (a) ring 2, (b) -OR³⁶, (c) -COOR³⁷, (d) -NR³⁸R³⁹, (e) halogen, (f) =NR⁴⁰,

R³⁰ and R³¹ each represents C1-4 alkyl,

R³⁶-R⁴⁰ each represents hydrogen or C1-4 alkyl optionally substituted with hydroxyl,

ring 2 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 2 may be substituted with 1-5 substituents selected from (1) C1-8 alkyl, (2) halogen, (3) -OCF₃, (4) cyano, (5) ring 3, (6) -OR⁴¹, (7) -NR⁴²R⁴³, (8) -COR⁴⁴, (9) -COOR⁴⁵, (10) -CONR⁴⁶R⁴⁷, (11) -NR⁴⁸COR⁴⁹, (12) -SO₂NR⁵⁰R⁵¹, (13) -NR⁵²SO₂R⁵³, and (14) -C(NH₂)=NR⁵⁴,

R⁴¹-R⁵² and R⁵⁴ each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 3, (6) -OR⁵⁵, or (7) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-3 substituents selected from the following (a)-(d): (a) ring 3, (b) -OR⁵⁶, (c) -COOR⁵⁷, (d) -NR⁵⁸R⁵⁹,

R⁵³ represents C1-8 alkyl,

R⁵⁵-R⁵⁹ each represents hydrogen or C1-4 alkyl,

ring 3 represents (1) C3-8 mono-carbocyclic aryl which may be partially or fully saturated, or (2) 3-8 membered mono-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 3 may be substituted with 1-3 of =O or =S,

R² represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 4, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from the following (a)-(i): (a) hydrogen, (b) -OR⁶⁰, (c) -NR⁶¹R⁶², (d) -CONR⁶³R⁶⁴, (e) -NR⁶⁵COR⁶⁶, (f) -NR⁶⁷SO₂R⁶⁸, (g) NR⁶⁹COOR⁷⁰, (h) ring 4, (i) cyano,

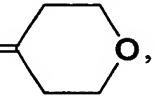
R⁶⁰-R⁶⁷ and R⁶⁹ each represents hydrogen, C1-8 alkyl, C2-8 alkenyl, or C2-8 alkynyl,

R⁶⁸ and R⁷⁰ each represents C1-4 alkyl, C2-4 alkenyl or C2-4 alkynyl,

ring 4 represents phenyl, pyridinyl, or C3-8 cycloalkyl,

ring 4 may be substituted with 1-5 of C1-4 alkyl,

R³ and R⁴ together with a carbon atom to which they are attached, form C3-8 cycloalkyl, or R³ and R⁴ each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8

alkynyl, (5) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from the following (a)-(c): (a) ring 5, (b) hydroxyl, (c) 

ring 5 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 5 may be substituted with 1-5 of -OR⁷¹, C1-4 alkyl or oxo,

R⁷¹ represents hydrogen or C1-4 alkyl,

a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

2. (Original) The compound according to claim 1, which is selected from the group consisting of

- (1) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonyl-2-chlorophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (2) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-(5-oxo-4,5-dihydro-1,2,4-thiadiazol-3-yl)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (3) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(4-(2-methoxyethylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (4) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-methylpropyl)-9-(4-(4-methylsulfonylamino-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (5) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(pyrrolidin-1-yl)carbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (6) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(2-methoxy-4-methylsulfonylamino)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (7) (3S)-1-butyl-2,5-dioxo-3-(2-methylpropyl)-9-(4-(2-methoxy-4-methylsulfonylamino)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (8) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylaminophenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (9) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylaminophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

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- (10) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(2-(4-methylaminocarbonylphenoxy)ethyl)-1,4,9-triazaspiro[5.5]undecane,
- (11) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(5-(4-methylaminocarbonylphenoxy)pentyl)-1,4,9-triazaspiro[5.5]undecane,
- (12) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane,
- (13) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclohexen-4-yl)methyl)-9-(4-(4-methylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (14) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylsulfonylaminophenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane, and
- (15) (3R)-1-pentyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane.

3. (Original) The compound according to claim 1, which is selected from the group consisting of

- (1) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-cyclopropylmethylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (2) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (3) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (4) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (5) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-(N,N,-dimethylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (6) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (7) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2,6-dimethylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (8) (3R)-1-pentyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (9) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

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(10) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-cyclopropylmethylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(11) (3R)-1-propyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-dimethylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(12) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cycloheptylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(13) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclopentylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(14) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclopentylmethyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(15) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-cyclopropylmethylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(16) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-methylaminocarbonyl-2-methoxyphenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(17) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(18) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)aminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(19) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2,2-dimethylpropylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(20) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylcarbonylaminophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(21) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylaminophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(22) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylcarbonylamino-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(23) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclopenten-4-yl)methyl)-9-(4-(4-carboxy-2-methylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(24) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclopenten-4-yl)methyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

(25) (3R)-1-(2-butynyl)-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane,

(26) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(1-(4-(4-methylaminocarbonylphenoxy)phenyl)ethyl)-1,4,9-triazaspiro[5.5]undecane, and

(27) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(1-(4-(4-carboxyphenoxy)phenyl)ethyl)-1,4,9-triazaspiro[5.5]undecane.

4. (Original) The compound according to claim 1, wherein R¹ is C1-8 alkyl, C2-4 alkenyl, or C2-4 alkynyl substituted with -COR⁶, =NR¹⁵, or =NOR¹⁶, in which R⁶, R¹⁵ and R¹⁶ have the same meanings as defined in claim 1.

5. (Original) The compound according to claim 1, wherein at least one of substituents of ring 1 in R¹ is -COR¹², oxo, or =NOR³⁵, in which R¹² and R³⁵ have the same meanings as defined in claim 1.

6. (Original) The compound according to claim 1, wherein at least one of substituents of ring 2 in R¹ is -COR⁴⁴ or -C(NH₂)=NOR⁵⁴, in which R⁴⁴ and R⁵⁴ have the same meanings as defined in claim 1.

7. (Original) The compound according to claim 1, wherein at least one of substituents of ring 3 in R¹ is =O or =S.

8. (Currently Amended) A pharmaceutical composition which comprises, as an active ingredient, the compound represented by formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof, and a pharmaceutically acceptable carrier.

9. (Currently Amended) A The pharmaceutical composition according to claim 8, which is a regulator of a chemokine/chemokine receptor, which comprises, as an active ingredient, the compound represented by formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

10. (Currently Amended) The ~~regulator of a chemokine/chemokine receptor pharmaceutical composition~~ according to claim 9, which is a CCR5 antagonist.

11. (Currently Amended) A ~~pharmaceutical composition method~~ for prevention and/or treatment for inflammatory diseases, immunologic diseases, human immunodeficiency virus, allergic diseases, ischemia-reperfusion injury, acute respiratory distress syndrome, shock accompanied by bacterial infection, diabetes mellitus, or metastasis, which comprises, ~~as an active ingredient, administering to a subject in need thereof an effective amount of~~ the compound represented by formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

12. (Original) A method for antagonizing CCR5 in a mammal, which comprises administering to a mammal an effective amount of the compound of formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

Claim 13. (Canceled)